

**What is claimed is:**

1. A well plate seal comprising:  
a matt having a plurality of spaced apart walls for engaging and sealing a  
5 plurality of exit ports in a multi well filtration/extraction plate; and  
a unidirectional flow control valve disposed in each of the plurality of matt  
wells for enabling liquid flow out of each exit port only upon application of a pressure  
differential across each exit port.
- 10 2. The well plate seal according to claim 1 wherein said matt is flexible  
for facilitating removable engagement with the filtration/extraction plate exit ports.
3. The well plate seal according to claim 2 wherein said matt and plurality  
of valves are integrally molded.
- 15 4. The well plate seal according to claim 3 wherein each of the plurality of  
valves comprise a duck-billed valve.
5. The well plate seal according to claim 4 wherein said matt includes 96  
20 wells spaced apart in a rectangular pattern.
6. The well plate seal according to claim 5 wherein each matt well  
includes tapered sidewalls for facilitating placement of said well plate seal onto  
extraction plate and sealing each of the exit ports.
- 25 7. A sealing matt for a multi well filtration/extraction plate having a  
plurality of exit ports, said sealing matt comprising:  
a member having a plurality of spaced apart wells for engaging and sealing  
each of said plurality of exit ports; and  
30 a unidirectional flow control valve disposed in each of the plurality of member  
wells for enabling liquid flow out of each exit port only upon application of a pressure  
differential across each exit port.

8. The sealing matt according to claim 7 wherein said member is flexible for facilitating removable engagement with the filtration/extraction plate exit ports.

9. The sealing matt according to claim 8 wherein said member and  
5 plurality of valve are integrally molded.

10. The sealing matt according to claim 9 wherein each of the plurality of valves comprising a duck-billed valve.

10 11. The sealing matt according to claim 10 wherein said member includes 96 wells spaced apart in a rectangular pattern.

12. The sealing matt according to claim 11 wherein each member well includes tapered sidewall for facilitating placement of the matt onto the  
15 filtration/extraction plate and sealing each of the exit ports.

13. A well plate seal comprising:  
a matt having a plurality of spaced apart wells for engaging and sealing a plurality of exit ports in a multi-well filtration/extraction plate, each well having a tapered sidewall for facilitating placement of said matt onto the filtration/extraction  
20 plate and sealing each of the exit ports; and  
a unidirectional flow control valve disposed in each of the plurality of matt wells for enabling liquid flow out of each exit port only upon application of a pressure differential across each exit port.

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14. The well plate seal accordingly to claim 13 wherein said matt is flexible for facilitating removable engagement with the filtration/extraction plate exit ports.

30 15. The well plate seal according to claim 13 wherein said matt and plurality of valve are integrally molded.

16. The well plate seal according to claim 13 wherein each of the plurality of valves comprise a duck-billed valve.

17. A method for providing flow control to exit ports of a multi-well  
5 filtration/extraction plate having a plurality of exit ports, said method comprising the steps of:

installing onto said multi-well filtration/extraction plate a matt having a plurality of spaced apart wells, each well sealing a corresponding exit port and each well having a unidirectional flow valve for enabling liquid flow out of each exit port  
10 only upon application of a pressure differentiated across each exit port; and  
applying the pressure differential across each exit port.

18. The method according to claim 17 further comprising the step of providing a tapered sidewall on each matt well for facilitating placement of said matt  
15 onto said multi-well filtration/extraction plate.

19. The method according to claim 18 wherein the step of installing the matt onto said multi-well filtration/extraction plate includes installing the matt with the flow valves comprising duck-billed valves.  
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